

# ABSTRACT

According to the present invention, a plasma display apparatus, which represents the luminance of one frame in accordance with a combination of plural sub-frames having  
5 luminance levels corresponding to a plurality of weighted values, additionally includes a sub-frame having a luminance level lower than the minimum gray scale level of luminance which can be represented by the number of bits in the input video data. Such plasma display apparatus turns on a desired  
10 combination of the sub-frames so as to increase the resolution of the luminance without increasing the conventional number of gray scale levels included in the input video data. In a preferred embodiment, especially when the added smaller luminance sub-frame is included in a combination of sub-frames  
15 for a low luminance area, the resolution of the gray scale of the low luminance area can be increased, and the representation of gray scale can be enhanced in a low luminance area to which the sight of a person is more sensitive.